FMC Corporation
1735 Market Street
Philadelphia PA 19103

215.299.6000 phone
215.299.6947 fax

www.fmc.com

FMC Corporation

Sent via email

June 17, 2015

Jonathan Williams
Remedial Project Manager, Superfund Program
US EPA, Region 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101

RE: FMC Operable Unit of the Eastern Michaud Flats Superfund Site
Unilateral Administrative Order for Remedial Design and Remedial Action
Docket No. CERCLA-10-2013-0116
Replacement of Monitoring Wells 108 and 121 at the FMC OU

Dear Mr. Williams:

As we discussed via telephone on June 3, 2015, the casings at monitoring wells 108 and l21 have been damaged in the course of recent remedial action work and the wells need to be replaced. During the site-wide grading phase work to backfill around the casing extensions at these monitoring wells, the well casings were damaged to an extent that the quarterly monitoring normally conducted at those wells (involving purging and sampling with a submersible pump) could not be performed. Attempts to perform downhole repairs were not successful. These wells therefore will be abandoned and replaced with new monitoring wells.

Monitoring wells 108 and 121 are two of the four monitoring wells in the RCRA Slag Pit Sump groundwater monitoring network that is specified in the Slag Pit Sump post-closure plan (refer to attached Figure 1-2 showing the slag pit sump monitoring well network). Because these wells have been monitored quarterly since they were installed in October 1990, the replacement wells will be constructed to conform as closely as possible to the damaged wells to provide for data comparability to the extent practicable. This means that they will be installed as close as practicable to the existing wells, and will aim at replicating those wells in terms of their construction (e.g., 4-inch PVC casing, screen length, slot size and elevation for top/bottom screen, and annular materials). The boring logs and well construction diagrams for monitoring wells 108 and 121 are attached for your information. The damaged wells will be properly abandoned.

The replacement well drilling and damaged well abandonment is currently scheduled to begin today. When completed, FMC will forward the lithologic logs and well construction diagrams for the replacement wells that will be designated 108A and 121A respectively.

FMC

Following construction and development of the replacement wells, groundwater sampling of the new wells in accordance with the Slag Pit Sump post-closure plan is scheduled to take place on June 29, 2015.

Please contact me at (215) 299-6210 if you have questions regarding this information.

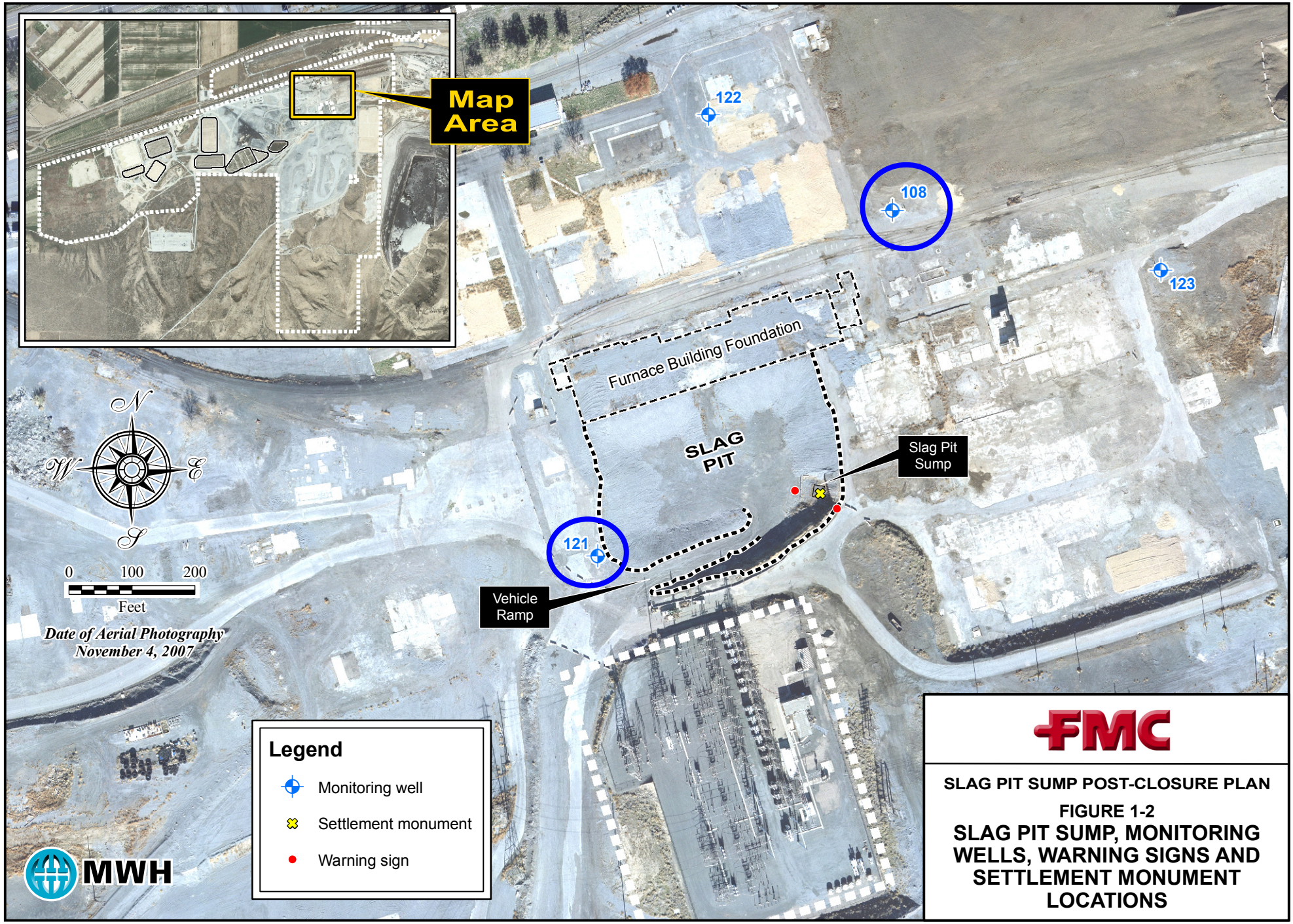
Sincerely,

Marguerite Carpenter

Marjo Carpenter, PhD
Project Coordinator
Associate Director, EHS Remediation
FMC Corporation

cc: (as required under the UAO and as directed by EPA)
Heather Valdez, EPA
Doug Tanner, IDEQ
Scott Miller, IDEQ
Kelly Wright, Shoshone-Bannock Tribes
Susan Hanson, Shoshone-Bannock Tribes

FILE *Fig 1-02_Slag Pit_MonWells_Warning_Settlement.mxd 18Oct2011*



GEOLOGIC DRILL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
EMF POCATELLO, ID	21372	1 OF 2	108

SITE	COORDINATES and/or STATIONINGS	ANGLE FROM HORIZ	BEARING
Northeast of Slag Pit Sump	N 452,316.5 E 556,573.7	Vertical	------

BEGUN	COMPLETED	DRILLER	DRILL MAKE AND MODEL	SIZE	OVERBURDEN	ROCK (FT.)	TOTAL DEPTH
10-12-90	10-12-90	Layne Environmental	AP-1000	10"	150.0	0.0	150.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
/		0	4482.40	4480.3	▽ 84.9/4395.3 12-01-90 /	/

SAMPLE HAMMER WEIGHT/FALL	CASING LEFT IN HOLE: DIA./LENGTH	LOGGED BY:
No samples collected.	4-in / 110.1-ft	Curtis Obi

SAMP. TYPE AND DIAM.	SAMP. ADV. LEN CORE	SAMPLE REC. CORE REC.	SAMPLE "N" BLOWS % CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M	WATER PRESSURE TESTS: PRESS. P.S.I.	WATER PRESSURE TESTS: TIME IN MIN.	ELEV.	DEPTH	GRAPHICS	SAMPLE	(Template: BCHTLLS) DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
							4480.3					
							4477.3	5			0 - 3 ft. **SAND (SP)**: Dusky yellowish brown (10 YR 2/2), dry, fine-grained sand with 10% subangular-to-subrounded coarse-grained sand and gravel (diameter ≤ 0.5 in.). 3 - 42 ft. **SAND (SP)**: Moderate yellowish brown (10 YR 5/4), dry, fine-grained sand.	Dual-wall percussion drilling with reverse air circulation. Air-water mist (<1 gpm) used where needed to restore circulation. Logged from drill cuttings and from split-spoon samples using the Unified Soil Classification System (ASTM D 2488-84) and the GSA Rock Color Chart.
								10				
								15				
								20				
								25				
								30				
								35				
								40				
							4438.3	45			42 - 66 ft. **SAND WITH GRAVEL (SP)**: Dark yellowish brown (10 YR 4/2), dry, fine-grained sand with 10% coarse-grained sand and 30% subangular-to-subrounded gravel and cobbles (diameter ≤ 6 in.) metamorphic lithologies.	
								50				
								55				
								60				
							4414.3	65			66 - 83 ft. **SAND WITH GRAVEL (SP)**: Moderate yellowish brown (10 YR 5/4), dry, coarse-grained sand with subangular-to-subrounded gravel and	

SS = SPLIT SPOON; ST = SHELBY TUBE
D= DENNISON P = PITCHER O = OTHER

GEOLOGIC DRILL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
EMF POCATELLO, ID	21372	2 OF 2	108

SAMP. TYPE AND DIAM.	SAMP. ADV. LEN CORE	SAMPLE REC. CORE REC.	SAMPLE BLOWS "N" % CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M	WATER PRESSURE TESTS: PRESS. P.S.I.	WATER PRESSURE TESTS: TIME MIN.	ELEV.	DEPTH	GRAPHICS	SAMPLE	(Template: BCHTLLS) DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
								75			cobbles (diameter ≤ 6 in.) of metamorphic lithologies.	
							4397.3	80				
								85			83 - 93 ft. **SILT WITH SAND (ML)**: Moderate brown (5 YR 3/4) to pale yellowish brown (10 YR 6/2), moist, with 20% fine-grained sand, 5% coarse-grained sand and gravel.	
							4387.3	90				
								95			93 - 109 ft. **GRAVEL WITH SAND (GW)**: Grayish red (10 R 4/2), wet, well-graded, subangular-to-subrounded gravel and cobbles (diameter ≤ 6 in.) with 10-20% coarse-grained sand.	Encountered ground water during drilling at approximately 93 ft below the ground surface.
								100				93-109 ft: Minimal ground-water discharge (approx. 1 gpm).
								105				
							4371.3					
							4370.3	110			109 - 110 ft. **CLAY (CL)**: Pale yellowish brown (10 YR 6/2), moist.	
								115			110 - 130 ft. **GRAVEL (GW)**: Grayish red (10 R 4/2), wet, well-graded, subangular-to-subrounded gravel and cobbles (diameter ≤ 6 in.) with silt.	110-130 ft: Abundant ground-water discharge.
								120				
								125				
							4350.3	130			130 - 150 ft. **SILT (ML)**: Wet, with coarse-grained sand.	
								135				
								140				
								145				
							4330.3				TOTAL DEPTH: 150.0 FT.	Boring converted to well on 10-12-90.

SS = SPLIT SPOON; ST = SHELBY TUBE
D= DENNISON P = PITCHER O = OTHER

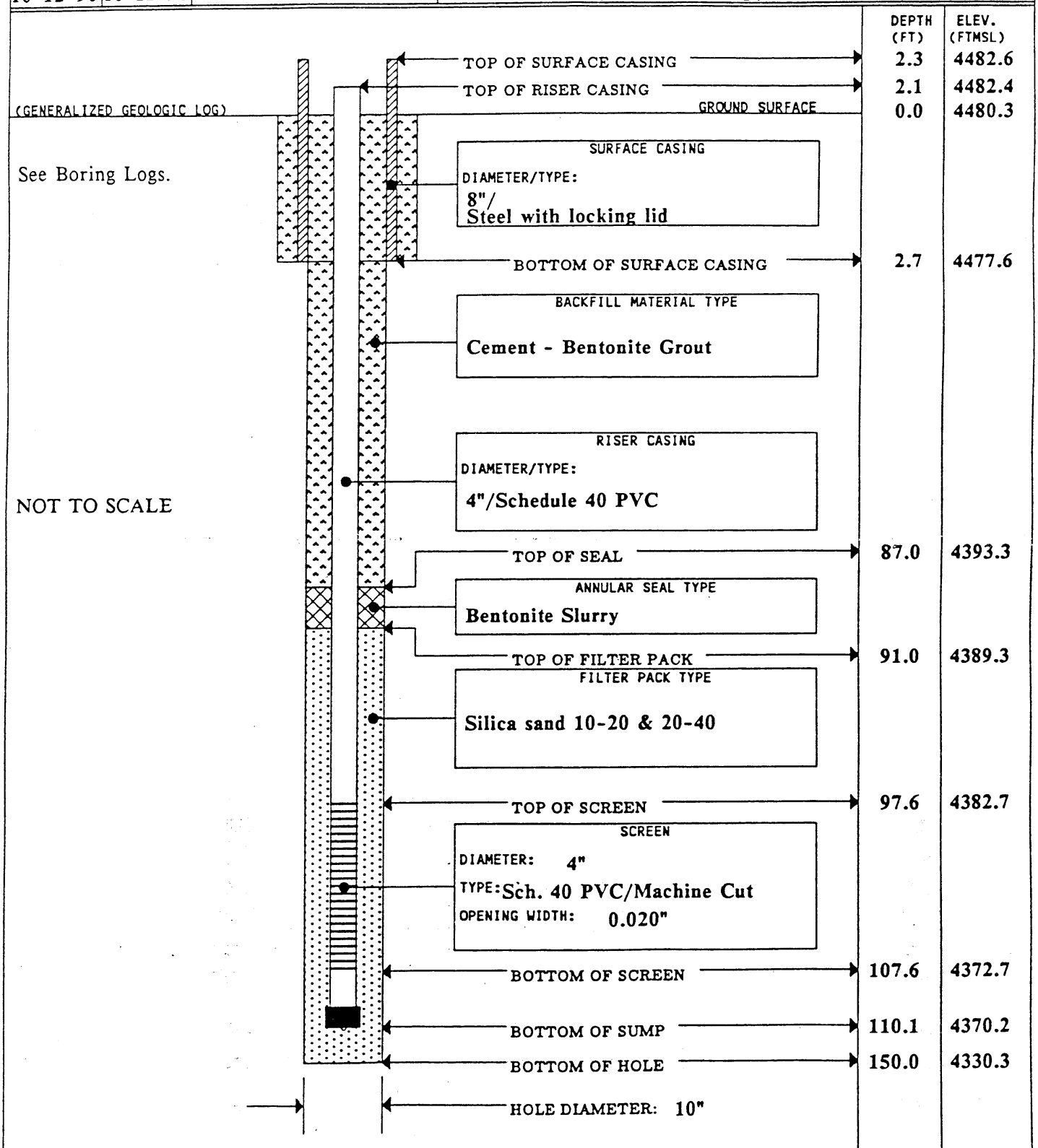
SITE	Last Update:	HOLE NO.
EMF POCATELLO, ID	8-12-92	108

MONITORING WELL

PROJECT	WELL NO.
EMF POCATELLO, ID	108

JOB NO.	SITE	COORDINATES and/or STATIONINGS
21372	Northeast of Slag Pit Sump	N 452,316.5 E 556,573.7

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-12-90	10-12-90	Curtis Obi	Top of PVC casing(Water level)



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.3	4482.6
TOP OF RISER CASING	2.1	4482.4
GROUND SURFACE	0.0	4480.3
BOTTOM OF SURFACE CASING	2.7	4477.6
TOP OF SEAL	87.0	4393.3
TOP OF FILTER PACK	91.0	4389.3
TOP OF SCREEN	97.6	4382.7
BOTTOM OF SCREEN	107.6	4372.7
BOTTOM OF SUMP	110.1	4370.2
BOTTOM OF HOLE	150.0	4330.3

Update: 8-12-92
Template: 2WELLOG

NOT TO SCALE

GEOLOGIC DRILL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
EMF POCATELLO, ID	21372	1 OF 2	121

SITE	COORDINATES and/or STATIONINGS	ANGLE FROM HORIZ	BEARING
Southwest of Slag Pit Sump	N 451,766.8 E 556,105.7	Vertical	------

BEGUN	COMPLETED	DRILLER	DRILL MAKE AND MODEL	SIZE	OVERBURDEN	ROCK (FT.)	TOTAL DEPTH
10-10-90	10-10-90	Layne Environmental	AP-1000	10"	120.0	0.0	120.0

CORE RECOVERY (FT./%)	CORE BOXES	SAMPLES	EL. TOP CASING	GROUND EL.	DEPTH/EL. GROUND WATER	DEPTH/EL. TOP OF ROCK
1.3/87		1	4485.58	4483.5	▽ 87.3/4396.2 12-01-90 /	/

SAMPLE HAMMER WEIGHT/FALL	CASING LEFT IN HOLE: DIA./LENGTH	LOGGED BY:
140-lbs / 30-in	4-in / 118.5-ft	Curtis Obi

SAMP. TYPE AND DIAM.	SAMP. ADV. LEN CORE REC.	SAMPLE REC. CORE REC.	SAMPLE "N" BLOWS / % CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M	WATER PRESSURE TESTS: PRESS. P.S.I.	WATER PRESSURE TESTS: TIME IN MIN.	ELEV.	DEPTH	GRAPHICS	SAMPLE	(Template: BCHTLLS) DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
							4483.5					
							4481.5				0 - 2 ft. **SILTY GRAVEL (FILL)**: Medium gray (5N5), dry, poorly-graded gravel with silt.	Dual-wall percussion drilling with reverse air circulation.
SS	1.5	1.3	11 13 18					5			2 - 11 ft. **SAND WITH GRAVEL (SP)**: Moderate yellowish brown (10 YR 5/4), dry to slightly moist, medium dense, fine-grained sand with 10% coarse-grained sand and 30% subangular-to-subrounded gravel and cobbles (diameter ≤ 5 in.).	Air-water mist (<1 gpm) used where needed to restore circulation.
							4472.5	10			11 - 50 ft. **SILTY SAND (SM) TO SILT (ML)**: Moderate yellowish brown (10 YR 5/4), dry to moist, silt and fine-grained sand.	Logged from drill cuttings and from split-spoon samples using the Unified Soil Classification System (ASTM D 2488-84) and the GSA Rock Color Chart.
								15				
								20				
								25				
								30				
								35				
								40				
								45				
							4433.5	50			50 - 75 ft. **SAND WITH GRAVEL (SW) TO GRAVEL WITH SAND (GP)**: Moderate yellowish brown (10 YR 5/4), slightly moist, well-graded sand and poorly-graded subangular-to-subrounded gravel and cobbles (diameter ≤ 6 in.).	
								55				
								60				
								65				

SS = SPLIT SPOON; ST = SHELBY TUBE D= DENNISON P = PITCHER O = OTHER	SITE	Last Update:	HOLE NO.
	EMF POCATELLO, ID	8-12-92	121

GEOLOGIC DRILL LOG

PROJECT	JOB NO.	SHEET NO.	HOLE NO.
EMF POCATELLO, ID	21372	2 OF 2	121

(Template: BCHTLLS)

SAMP TYPE AND DIAM.	SAMP. ADV. LEN CORE	SAMPLE REC. CORE REC.	SAMPLE BLOWS % CORE RECOVERY	WATER PRESSURE TESTS: LOSS IN G.P.M	WATER PRESSURE TESTS: PRESS. P.S.I.	WATER PRESSURE TESTS: TIME MIN.	ELEV.	DEPTH	GRAPHICS	SAMPLE	DESCRIPTION AND CLASSIFICATION	NOTES ON: WATER LEVELS, WATER RETURN, CHARACTER OF DRILLING, ETC.
							4408.5	75			75 - 82 ft. **SAND WITH GRAVEL (SP)**: Dark yellowish brown (10 YR 4/2), moist to wet, fine-grained sand with 30% gravel.	
							4401.5	80			82 - 95 ft. **SILT (ML)**: Pale yellowish brown (10 YR 6/2), wet, with clay.	Encountered ground water during drilling at approximately 82 ft below the ground surface.
								85				
								90				
							4388.5	95			95 - 120 ft. **GRAVEL WITH SAND (GW)**: Wet, well-graded gravel with coarse-grained sand.	95-120 ft: Abundant ground-water discharge (approx. 60 gpm).
								100				
								105				
								110				
								115				
							4363.5	120			TOTAL DEPTH: 120.0 FT.	Drilling terminated at the request of FMC. Boring converted to well on 10-10-90.

SS = SPLIT SPOON; ST = SHELBY TUBE
D= DENNISON P = PITCHER O = OTHER

SITE: EMF POCATELLO, ID

Last Update: 8-12-92

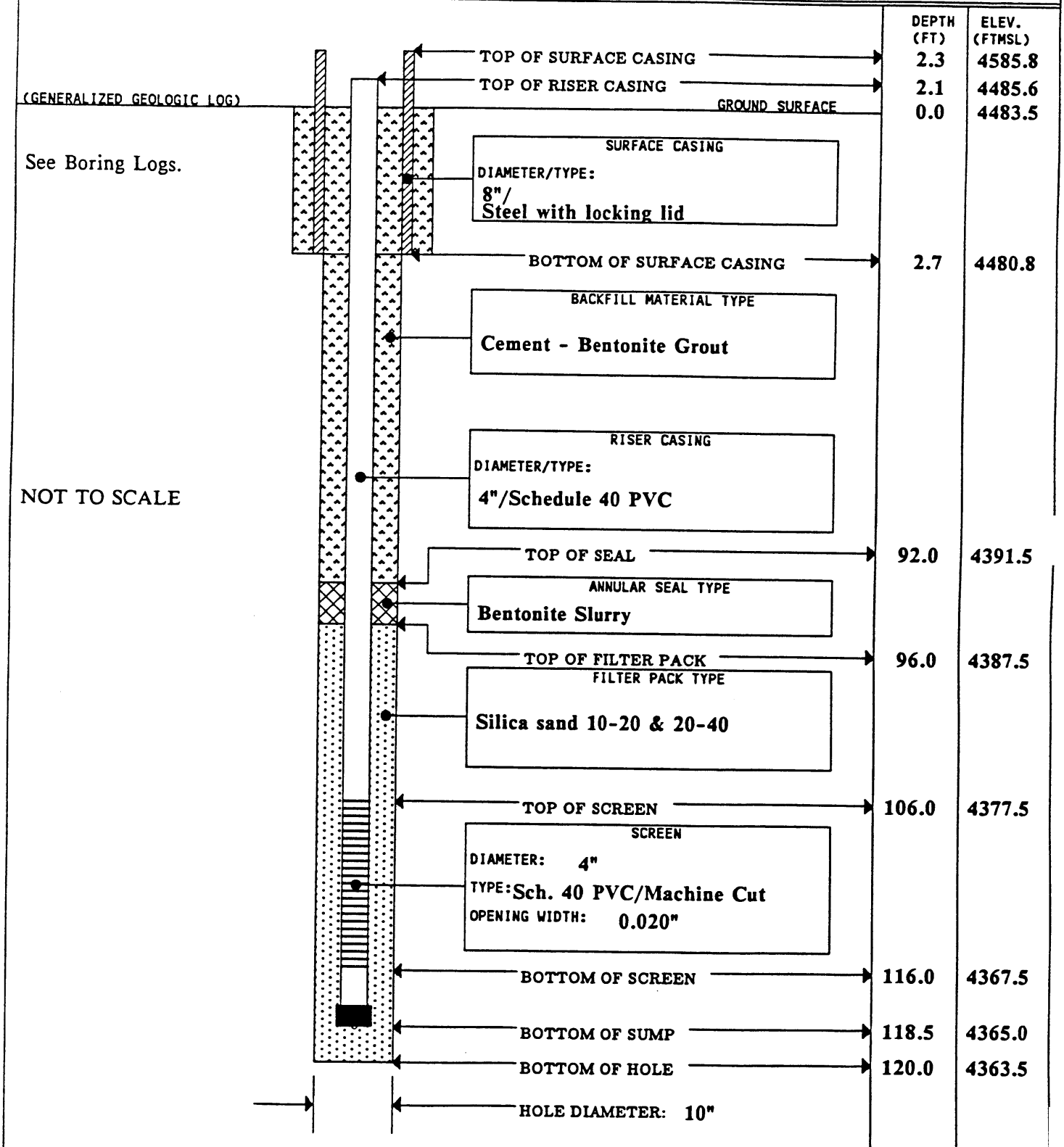
HOLE NO. 121

MONITORING WELL

PROJECT	WELL NO.
EMF POCATELLO, ID	121

JOB NO.	SITE	COORDINATES and/or STATIONINGS
21372	Southwest of Slag Pit Sump	N 451,766.8 E 556,105.7

BEGUN	COMPLETED	PREPARED BY	REFERENCE POINT FOR MEASUREMENTS
10-10-90	10-10-90	Curtis Obi	Top of PVC casing(Water level)



	DEPTH (FT)	ELEV. (FTMSL)
TOP OF SURFACE CASING	2.3	4585.8
TOP OF RISER CASING	2.1	4485.6
GROUND SURFACE	0.0	4483.5
BOTTOM OF SURFACE CASING	2.7	4480.8
TOP OF SEAL	92.0	4391.5
TOP OF FILTER PACK	96.0	4387.5
TOP OF SCREEN	106.0	4377.5
BOTTOM OF SCREEN	116.0	4367.5
BOTTOM OF SUMP	118.5	4365.0
BOTTOM OF HOLE	120.0	4363.5

Update: 8-12-92
Template: 2WELLOG

NOT TO SCALE